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| APPLICATION NO.              | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|------------------------------|-------------|----------------------|---------------------|------------------|
| 10/531,717                   | 04/18/2005  | Henri Lancelin       | LANCELIN1           | 2302             |
| 1444                         | 7590        | 05/16/2008           | EXAMINER            |                  |
| BROWDY AND NEIMARK, P.L.L.C. |             |                      | LIN, JERRY          |                  |
| 624 NINTH STREET, NW         |             |                      |                     |                  |
| SUITE 300                    |             |                      | ART UNIT            | PAPER NUMBER     |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/531,717             | LANCELIN ET AL.     |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Jerry Lin              | 1631                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 11 February 2008.

2a) This action is **FINAL**.                            2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-11 is/are pending in the application.

4a) Of the above claim(s) 7-9 is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-6, 10 and 11 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 18 April 2005 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 4/18/05.

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.

5) Notice of Informal Patent Application

6) Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Species A, claims 5 and 6 in the reply filed on February 11, 2008 is acknowledged. The traversal is on the ground(s) that there is single inventive concept that unites the different species. This is not found persuasive because the applicants have not pointed out what the inventive concept is within the species. As stated before in the prior office action, each of the species are drawn to a different inventive concept under PCT Rule 13.1., because each species comprises different method steps.

The requirement is still deemed proper and is therefore made FINAL.

Claims 7-9 and the species in claim 4 drawn to a coalescence step and a repeat preprocessing are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on February 11, 2008.

### ***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Specification***

3. The disclosure is objected to because of the following informalities: The term "known" is misspelled at page 9, line 8.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112, 1<sup>st</sup> Paragraph***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 1-6, 10, and 11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Factors to be considered in determining whether a disclosure would require undue experimentation have been summarized in Ex parte Forman, 230 USPQ 546 (BPAI 1986) and reiterated by the Court of Appeals in In re Wands, 8 USPQ2d 1400 at 1404 (CAFC 1988). The factors to be considered in determining whether undue experimentation is required include:

(1) the quantity of experimentation necessary – The specification does not describe how to make the calculations in order to perform the method. Thus one of skill in the art must perform undue experimentation to derive the calculations in order to accomplish the claimed method.

(2) the amount of direction presented - The specification does not teach how to project the set of actives, classify all the projections, and agglomerate the training groups.

(3) the presence or absence of working examples - there are no working examples.

(4) the nature of the invention – The invention is drawn to obtaining a spectrum and performing a series of calculations on the spectrum to determine a spectrum that can detect chemical or biological substance in the atmosphere via flame spectrophotometry.

(5) the state of the prior art - flame spectrophotometry is well known in the prior art.

(6) the relative skill of those in the art – The relative skill is high.

(7) the predictability or unpredictability of the art – If one of skill in the art knew what calculations to perform, the art is predictable.

(8) the breadth of the claims - The instant claims are drawn to analyzing reduced data of a current spectrum in principal components, creating a matrix representing the projection of a set of actives, classifying the projections into current groups, evaluating potential of affiliation of the current spectrum in all the current groups, affiliating of the current spectrum to one of the current groups, setting off an alarm if the current groups have particular frequency of appearance, and remotely rejecting of the current spectrum if it is different to extant forms to belong to a new group.

The instant claims are drawn to identifying a spectrum for detecting chemical or biological substances in the atmosphere via flame spectrophotometry. The method includes a series of mathematical calculations that are to result in the identification of a current spectrum for detecting chemical and/or biological substances in the atmosphere. However, in order for one of skill in the art to perform such calculations, one of skill must know what these calculations are. Neither the claims nor the specification teach how to project the set of actives, classify all the projections, and agglomerate the training groups. It is noted that on page 8 of the specification, the projection of the detected spectrum on all the projection axes is described. However, the projection of the detected spectrum does not appear to be the equivalent of projecting the set of actives. Furthermore, neither the specification nor the prior art define "a set of actives" or "principal components" are in the context of the claimed invention. Without knowing what "a set of actives" or "principal components" are or what calculations to perform, one of skill in the art would have to perform undue experimentation to derive the calculations as well as determine what "a set of actives" or "principal components" are. Thus, the claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains to make and/or use the invention.

***Claim Rejections - 35 USC § 112, 2<sup>nd</sup> Paragraph***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-6, 10 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Claims 1-6, 10 and 11 each list a series of elements, such as "the analysis", "the creation", "the classification", "the evaluation", "the affiliation", "the setting" and "the remote rejection". However, as written, it is unclear if these elements are active steps of the claimed method. For example, claim 1 at line 14 recites the term "the affiliation". It is unclear if this is a separate step or if it is referring to the "affiliation" in line 12. Clarification via clearer claim language is requested.

Claims 1 recites the limitations "the analysis", "the reduced data", "the creation", "the projections", "the set of actives", "the classification", "the evaluation", "the potential of affiliation", "the affiliation of the current spectrum", "the setting off", "the alarm", "the different elements", "the remote rejection", "the agglomeration", and "the training groups". There is insufficient antecedent basis for these limitations in the claim. It is unclear to what these limitations are referring, because they do not appear previously in the instant claim.

Claims 1 and 4 recite the term "actives." It is unclear what the term means. The specification does not define this term, nor does a search of the prior art revealed any commonly accepted definition.

Claims 1 recites the term “principal components.” It is unclear what these principle components are. The specification does not define this term, nor does a search of the prior art revealed any commonly accepted definition.

The term "sufficiently different" in claim 1 is a relative term which renders the claim indefinite. The term "sufficiently different" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: the step of identifying the spectrum that detects chemical and/or biological substances. The preamble recites that the purpose of the claimed method is to identify the spectrum that detects chemical and/or biological substances. However, the instant claims do not recite any step where this is accomplished. Thus, the instant claims incomplete and omit an essential step.

Claim 2 recites the limitation "the modeling", "the deleting", "the filtering", "the obtained signal", "the standardizing", "the filtered spectrum", "the detecting", and "the latter". There is insufficient antecedent basis for these limitations in the claim. It is unclear to what these limitations are referring, because they do not appear previously in the instant claim or in the claim from which it depends.

Regarding claim 2, the parenthetical terms "(block 2)", "(block 3)", "(block 4)", "(block 5)", and "(block 6)" render the claim indefinite because it is unclear whether the limitations in the parenthesis are part of the claimed invention. See MPEP § 2173.05.

Claim 3 recites the limitation "the projection of the current spectrum", "the projection axes", "the parameters", and "the use". There is insufficient antecedent basis for these limitations in the claim. It is unclear to what these limitations are referring, because they do not appear previously in the instant claim.

Regarding claim 3, the parenthetical terms "(block 7)" renders the claim indefinite because it is unclear whether the limitation in the parenthesis are part of the claimed invention. See MPEP § 2173.05.

Regarding claim 4, the parenthetical terms "(block 8)" and "(block 9)" render the claim indefinite because it is unclear whether the limitations in the parenthesis are part of the claimed invention. See MPEP § 2173.05.

Claim 4 recites the limitation "the step" and "the diagnostic step" in line 10. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "the calculation" and "the warning level" in lines 2 and 5. There is insufficient antecedent basis for this limitation in the claim. There is insufficient antecedent basis for these limitations in the claim. It is unclear to what these limitations are referring, because they do not appear previously in the instant claim.

Claim 6 recites the limitation "the identifying", "the diagnosed spectrum", and "the sum" in lines 2 and 3. There is insufficient antecedent basis for this limitation in the

claim. It is unclear to what these limitations are referring, because they do not appear previously in the instant claim.

Claim 10 recites the limitation "the inserting", "the destruction", and "the oldest group" in lines 4 and 5. There is insufficient antecedent basis for this limitation in the claim. It is unclear to what these limitations are referring, because they do not appear previously in the instant claim.

#### ***Claim Rejections - 35 USC § 101***

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 1-6, 10 and 11 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The instant claims are drawn to a process involving the judicial exception of a computational algorithm. Claims drawn to a judicial exception is non-statutory unless the claims include a practical application of that judicial exception as evidenced by a physical transformation of matter, or if the claimed invention recites a useful, tangible and concrete final result. In the instant claims, there is no physical transformation by the claimed invention, thus the Examiner must determine if the instant claims produce a useful, tangible, and concrete final result. See MPEP 2106.

The instant claims do not produce a useful, concrete, and tangible final result. A useful, concrete, and tangible final result requirement requires that the claim must set

forth a practical application of the mathematical algorithm to produce a real-world result. The instant claims are drawn to identifying a current spectrum. However, the instant claims do not recite any identification of a spectrum or any communication to the outside world. Thus the instant claims do not require that a result must be produced. Since there is no final result in the claims, the instant claims do not include a useful, concrete, and tangible final result. Examples of amendments to overcome this rejection include amending the claims to identify/recite a concrete result and to recite that the result is outputted to a display or to a user or outputted in a user readable format. However, applicant is reminded that any amendment must be fully supported and enabled by the originally filed disclosure.

### ***Conclusion***

No claim is allowed.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Lin whose telephone number is (571)272-2561. The examiner can normally be reached on 7:00-5:30pm, M-TH.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marjorie A. Moran can be reached on (571) 272-0720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jerry Lin/  
Examiner, Art Unit 1631